ZooKeys 60: 21–36 (2010)
doi: 10.3897/zookeys.60.404
www.pensoftonline.net/zookeys

RESEARCH ARTICLE

A peer-reviewed open-access journal
ZooKeys
Launched to accelerate biodiversity research

Korean species of *Aleochara* Gravenhorst subgenus *Xenochara* Mulsant & Rey (Coleoptera, Staphylinidae, Aleocharinae)

Jong-Seok Park[1], Kee-Jeong Ahn[2]

1 *Department of Entomology, Louisiana State University Agricultural Center, Baton Rouge, LA, 70803, USA*
2 *Department of Biology, Chungnam National University, Daejeon 305-764, Republic of Korea*

Corresponding author: *Kee-Jeong Ahn* (kjahn@cnu.ac.kr)

Academic editor: *Jan Klimaszewski* | Received 2 February 2009 | Accepted 24 March 2010 | Published 7 October 2010

Citation: Park J-S, Ahn K-J (2010) Korean species of *Aleochara* Gravenhorst subgenus *Xenochara* Mulsant & Rey (Coleoptera, Staphylinidae, Aleocharinae). ZooKeys 60: 21–36. doi: 10.3897/zookeys.60.404

Abstract

A taxonomic review of *Aleochara* Gravenhorst subgenus *Xenochara* Mulsant & Rey in Korea is presented. Five species are recognized, with one species, *A.* (*Baryodma*) *intricata* Mannerheim, newly transferred to the subgenus *Xenochara*. *Aleochara* (*X.*) *asiatica* Kraatz and *A.* (*X.*) *peninsulae* Bernhauer are reported for the first time in the Korean peninsula. A key, line drawings of diagnostic characters, and redescriptions of Korean *Xenochara* species are provided.

Keywords

Aleocharini, *Aleochara*, *Xenochara*, redescription, Korea.

Introduction

The staphylinid genus *Aleochara* Gravenhorst includes over 400 species in 19 subgenera worldwide. Fourteen species in six subgenera are recorded in the Korean peninsula (Smetana 2004; Park and Ahn 2009). The subgenera of *Aleochara* have been previously diagnosed using a few characters of the antenna, mesosternal carina, pronotal pubescence and microsculpture, elytral pubescence, maxillary palpi, and genitalia (Klimaszewski 1984). However, the morphologically diverse subgenera such as *Xenochara* are poorly distinguished from other *Aleochara* subgenera by these characters (Klimaszewski 1984).

Copyright *Jong-S. Park, Kee-Jeong Ahn.* This is an open access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Therefore, we used characters that are more informative at the subgeneric and species levels. Our character analysis follows the methods of Sawada (1972) and Ashe (1984). The terminology for abdominal segments follows Thayer (2005).

We redescribe five Korean *Xenochara* species herein, and a key and line drawings of diagnostic characters of these species are also provided. The Korean specimens studied are deposited in the Chungnam National University Insect Collection (CNUIC), Daejeon, Korea.

Subgenus *Xenochara* Mulsant & Rey

Xenochara Mulsant & Rey, 1874: 60; Ganglbauer, 1895: 32; Fenyes, 1920: 403; Bernhauer & Scheerpeltz, 1926: 781; Palm, 1972: 426; Seevers, 1978: 137.
Polychara Mulsant & Rey, 1874: 64; Ganglbauer, 1895: 34; Fenyes, 1920: 408; Bernhauer & Scheerpeltz, 1926: 785; Portevin, 1929: 237; Seevers, 1978: 136.
Isochara Bernhauer, 1901: 440, 461.
See Klimaszewski (1984) for complete synonymy and references.

Type species: *Aleochara decorata* Aubé.

Diagnosis. The subgenus *Xenochara* can be distinguished by a combination of the following characters: body compact, robust, pubescent; antennomere 4 usually longer than wide (except *A. tristis*, transverse); carina on each side of midline of ventral surface of head present, attaining or almost attaining gular suture (arrows, Figs 1b, 2b, 3b, 4a, 5a; Klimaszewski 1984: Figs 313, 319, 321); maxillary palpomere 4 usually long (1/3 to 3/4 length of palpomere 3); labral b-seta sharpened or rounded apically (arrows, Figs 1c, 2c, 3c, 4b, 5b); mandibular internal tooth absent or weakly present; β-seta of labial palpi long (Figs 1e, 2e, 3e, 4d, 5d); mesoventrite completely or almost completely carinate (Figs 1a, 2a, 3a); pronotum evenly pubescent; spines of lateral margins of fore- and meso-tibia present but absent in meta-tibia.

Remarks. This diagnosis is modified from Klimaszewski (1984:35). New diagnostic characters based on mouthparts are added, and these are consistent at the subgenus level.

Key to the *Aleochara* (*Xenochara*) species from Korea

1. Elytra with emarginate latero-posterior margins **2**
– Elytra with rounded latero-posterior margins **3**
2. Labral b-seta acute (arrow, Fig. 3c), labium with a pair of distal setae (arrow, Fig. 3d), male abdominal tergite VIII with undulate posterior margin (secondary sexual dimorphism; Fig. 3g), male abdominal sternite VIII with produced posterior margin (secondary sexual dimorphism; arrow, Fig. 3i), paramere with fovea in hinge zone (arrow, Fig. 3k), spermathecal duct not coiled (Fig. 3n) ..... ***A. peninsulae* Bernhauer**

– Labral b-seta rounded at tip (arrow, Fig. 4b), labium without distal setae (Fig. 4c), male abdominal tergite VIII without undulate posterior margin (Fig. 4f), male abdominal sternite VIII with rounded posterior margin (Fig. 4g), paramere without fovea in hinge zone (Fig. 4j), spermathecal duct coiled (Fig. 4l) ..... ***A. puberula* Klug**

3. Antennomeres 5–6 longer than wide, abdominal tergite VIII with deeply emarginate posterior margin (Figs 1g, 1h), male tergite VIII with undulate posterior margin (secondary sexual dimorphism; Fig. 1g) ..... ***A. asiatica* Kraatz**

– Antennomeres 5–6 transverse, abdominal tergite VIII with weakly emarginate posterior margin (Figs 2g, 5f), male tergite VIII without undulate posterior margin (Figs 2g, 5f) **4**

4. Antennomere 4 longer than wide, labral b-seta rounded at tip (arrow, Fig. 2c), labium without distal setae (Fig. 2d), paramere without fovea in hinge zone (Fig. 2j), median lobe without coiled flagellum (Fig. 2k), spermathecal duct not coiled (Fig. 2m) ..... ***A. intricata* Mannerheim**

– Antennomere 4 transverse, labral b-seta acute (arrow, Fig. 5b), labium with a pair of distal setae (arrow, Fig. 5c), paramere with fovea in hinge zone (arrow, Fig. 5i), median lobe with coiled flagellum (arrow, Fig. 5j), spermathecal duct coiled (Fig. 5l) ..... ***A. tristis* Gravenhorst**

***Aleochara* (*Xenochara*) *asiatica* Kraatz**
Fig. 1

Aleochara asiatica Kraatz, 1859: 15; Bernhauer & Scheerpeltz, 1926: 780; Pace, 2001: 35 (mentioned as subgenus *Xenochara*); Smetana, 2004: 356 (mentioned as subgenus *Euryodma*).
Aleochara japonica Sharp, 1874: 8.
Aleochara (*Isochara*) *asiatica* Cameron, 1939: 644.

Redescription. Length 4.5–6.5 mm. Body large and robust; brownish black, antenna and legs black; elytra bicolored. Antennomeres 1–3 elongate, 4–6 longer than wide and 7–10 transverse. *Mouthparts*. Labrum transverse, bearing approximately 11 small, setae, and approximately 21 long setae, a-seta, b-seta, and pores present; b-seta rounded apically (arrow indicates b-seta, Fig. 1c). Labium with pseudopores in median area, approximately 2 real pores and pseudopores present in lateral area; a pair of basal pores present (Fig. 1d). Ligula with approximately 4 pairs of small setae apically (Fig. 1d). Labial palpi with large a-, b-, and f-seta of 12 setae present (a–h, α–δ); long β-seta present in the middle of palpomere 1; d-seta higher than c-seta (Fig. 1e). Mentum transverse, bearing 4 pairs of main setae (b, u, v, w), and 6 extra setae, and pores present (Fig. 1f). *Thorax*. Mesoventrite completely carinate (arrow, Fig. 1a). Elytra with round latero-posterior margin. *Abdomen*. Male and female abdominal tergite VIII with many short setae and pores; posterior

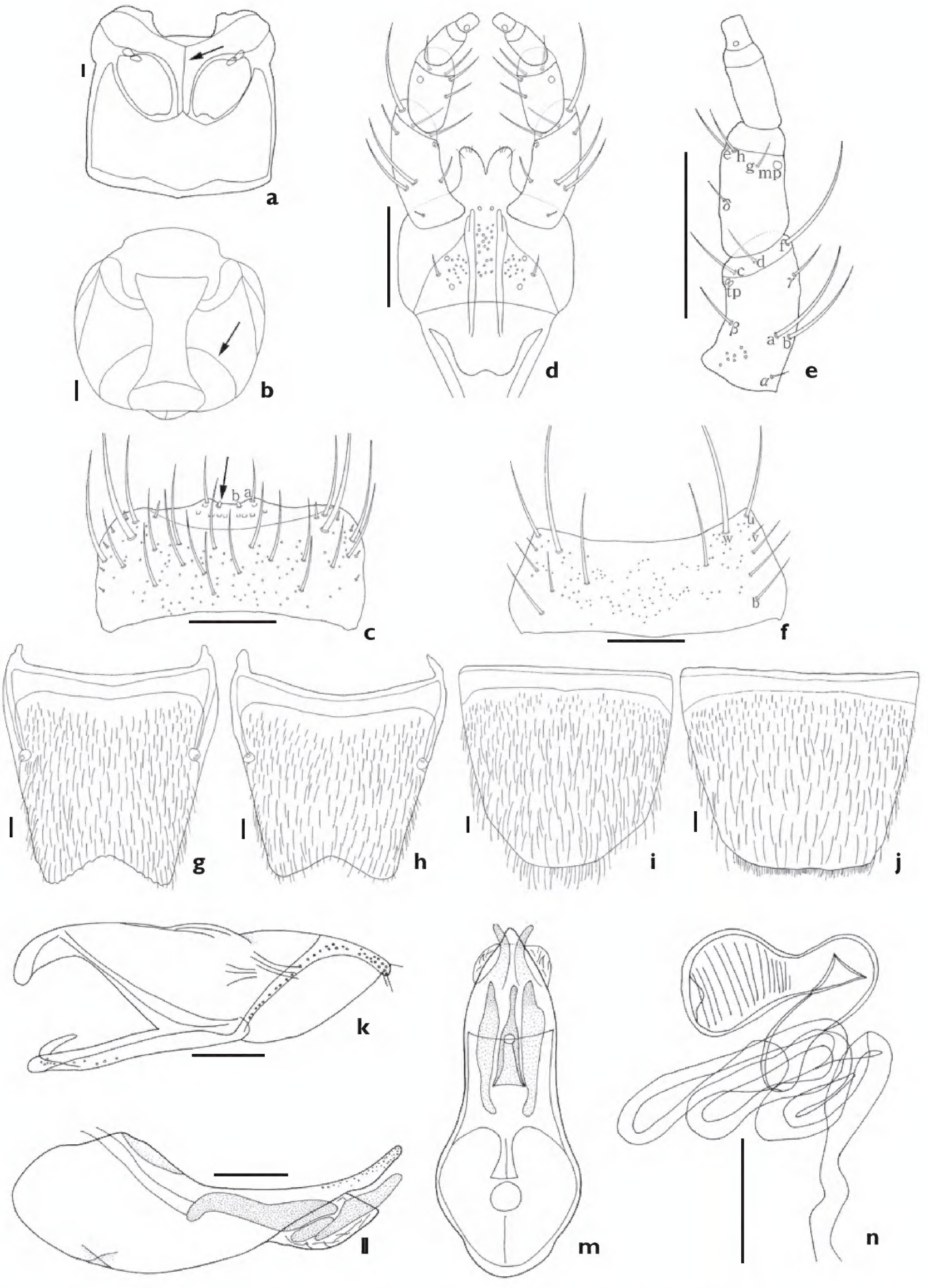

Figure 1. *Aleochara* (*Xenochara*) *asiatica*. **a** meso- and metaventrite, ventral aspect **b** head, ventral aspect **c** labrum, dorsal aspect **d** labium, ventral aspect **e** labial palpus, ventral aspect **f** mentum, ventral aspect **g** male tergite VIII, dorsal aspect **h** female tergite VIII, dorsal aspect **i** male sternite VIII, ventral aspect **j** female sternite VIII, ventral aspect **k** paramere, lateral aspect **l** median lobe, lateral aspect **m** median lobe, dorsal aspect **n** spermatheca. Scale bars = 0.1 mm.

margin deeply emarginate and undulate on male (Fig. 1g, h). Male and female abdominal sternite VIII with many short setae and pores, margin rounded and female with many small setae on posterior margin (Fig. 1i, j). *Genitalia*. Median lobe as in Figs 1l and m. Paramere without fovea in hinge zone (Fig. 1k). Spermatheca with duct coiled (Fig. 1n).

Material examined. 1♂, Daeheungsa-temple, Samsan-myeon, Haenam-gun, Jeonnam Prov., Korea, 23.IV.1983, Y. B. Cho; 4♂♂ 2♀♀, Jeju Prov., Korea, 22.VII.1985, Y.B. Cho (1♂ 1♀, on slide); 1♀, Donnaeko, Sanghyo-dong, Seogwipo-city, Jeju Prov., Korea, 18.X.1985, K.-S. Lee; 1♀, Donnaeko, Sanghyo-dong, Seogwipo-city, Jeju Prov., Korea, 22.X.1985, K.-S. Lee; 1♀, Jeongbangpolpo-waterfall, Donghong-dong, Seogwipo-city, Jeju Prov., Korea, 29.X.1985, K.-S. Lee; 1♂, Gasi-ri, Pyoseon-myeon, Namjeju-gun, Jeju Prov., Korea, 5.V.1985, K.-S. Lee; 2, Japan, G. Lewis, 1910–320, Nagasaki, 22.V–3.VI.81; 2, Japan, G. Lewis, 1910–320, Kumamoto, 23.IV–26.IV.81; 3, Japan, G. Lewis, 1905–313 (1, Holotype of *Aleochara japonica* Sharp, deposited in the Natural History Museum, London); 1, Japan, G. Lewis, 1910–320.

Distribution. China, India, Japan, Korea, Nepal, Taiwan (see Smetana, 2004: 356).

Remarks. This species is a new record for the Korean peninsula.

Aleochara (*Xenochara*) *intricata* Mannerheim

Fig. 2

Aleochara intricata Mannerheim, 1830: 96; Fenyes, 1920: 404; Bernhauer & Scheerpeltz, 1926: 782; Portevin, 1929: 236; Palm, 1972: 428; Lohse, 1974: 296; Welch, 1997: 26; Smetana, 2004: 354; Assing, 2007a: 60; 2007b: 184.
Aleochara terminata Stephens, 1832: 158.
Aleochara celer Stephens, 1832: 161.
Aleochara biguttata Heer, 1839: 315.
Aleochara croatica Penecke, 1901: 12.

Redescription. Length 3.5–6.0 mm. Body large and robust; brownish black; antennomeres 1–3 and legs brown; elytra yellow to yellowish brown and bicolored. Antennomeres 1–3 elongate, 4 longer than wide, 5–8 weakly transverse and 9–10 transverse. *Mouthparts*. Labrum transverse, bearing approximately 8 small, setae, and approximately 26 long setae, a-seta, b-seta, and pores present; b-seta rounded apically (arrow indicates b-seta, Fig. 2c). Labium with pseudopores in median area; approximately 3 real pores and pseudopores present in lateral area; pair of basal pores present (Fig. 2d). Ligula with approximately 4 pairs of small setae apically (Fig. 2d). Labial palpi with large a-, b-, and f-seta of 12 setae (a–h, α–δ) present; β-seta close to twin pores (tp); d- and c-seta at same level (Fig. 2e). Mentum transverse, bearing 4 pairs of main setae (b, u, v, w), and 4 extra setae, and pores present (Fig. 2f). *Thorax*. Mesoventrite completely carinate (arrow, Fig. 2a). Elytra with round latero-posterior margin. *Abdomen*. Abdominal tergite VIII with many short setae and pores; posterior margin weakly emarginate (Fig. 2g). Abdominal sternite VIII with many short setae

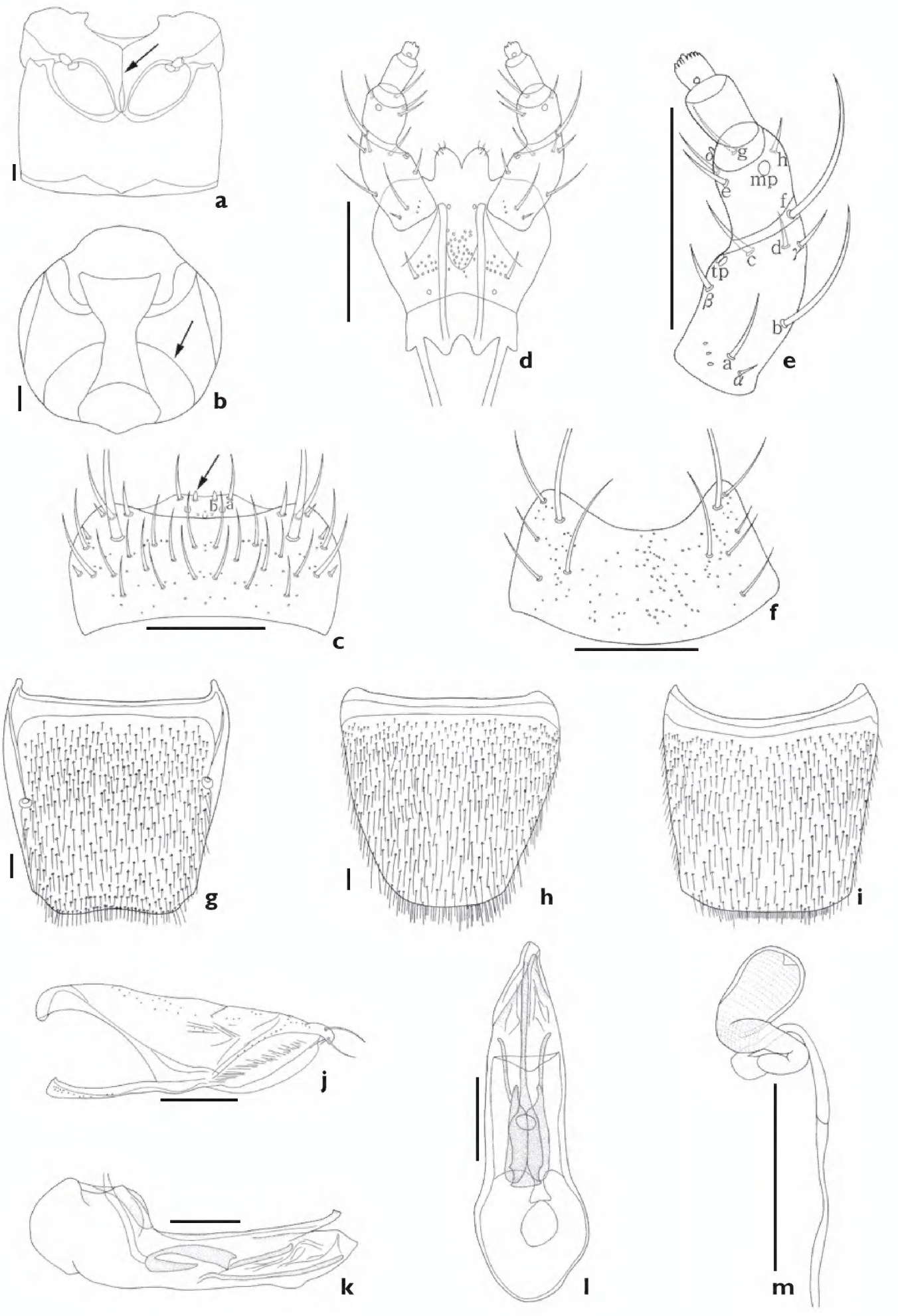

Figure 2. *Aleochara* (*Xenochara*) *intricata*. **a** meso- and metaventrite, ventral aspect **b** head, ventral aspect **c** labrum, dorsal aspect **d** labium, ventral aspect **e** labial palpus, ventral aspect **f** mentum, ventral aspect **g** tergite VIII, dorsal aspect **h** male sternite VIII, ventral aspect **i** female sternite VIII, ventral aspect **j** paramere, lateral aspect **k** median lobe, lateral aspect **l** median lobe, dorsal aspect **m** spermatheca. Scale bars = 0.1 mm.

and pores; posterior margin rounded (Fig. 2h, i). *Genitalia*. Median lobe as in Figs 2k and l. Paramere without fovea in hinge zone (Fig. 2j). Spermatheca as in Fig. 2m.

Material examined. 7, Hol-ri, Ganseong-eup, Goseong-gun, Gangwon Prov., Korea, 31.VIII–1.IX.1984, Y.-S. Kim (2♂♂2♀♀, on slide); 1, Gohan-ri, Sabuk-eup, Gangwon Prov., Korea, 27.IV.1985, J.-I. Kim; 1, Deakwan-ryeong, Gangwon Prov., Korea, 28.VI.1984, Y.-S. Kim; 2, Oigapyeong, Inje-gun, Gangwon Prov., Korea, 26.V.1986, Y.-S. Kim; 1, Baekdamsa-temple, Inje-gun, Gangwon Prov., Korea, 26.V.1986, Y.-S. Kim; 1, Dammaeul, Cheongsong, Gyeongbuk Prov., Korea, 24.VI.1988, K.-S. Jang; 1, Tonghan, Anjeong, Jeonbuk Prov., Korea, 5.VI.1988, Y.-S. Kim; 6, Seilles, carriere 1, 11/19 VIII 1945, G. Fagel; 2, Anseremme car, vers Freyr, 26 VIII 1946, G. Fagel; 2, Abruzzo, A. colomba, Italy, 26.VII.1894, P Fiori; 12, Lazio, Roma, Lirezzi, Italy, A. Fiori.

Distribution. Korea, Asia, Europe, North Africa (see Smetana, 2004: 354).

Remarks. This species is a new record for South Korea.

Aleochara (*Xenochara*) *peninsulae* Bernhauer

Fig. 3

Aleochara peninsulae Bernhauer, 1936: 325; Smetana, 2004: 360.

Holotype examined. Male mounted on card, with mouthparts, aedeagus and abdominal apex (segment VIII+) mounted in balsam on two transparent cards, labeled as follows: "Shimabara Unzen 2200F 2. 8. 34. Suenson" [printed]; "peninsulae Brnh. Typus un. *Polychara*" [handwritten yellow label]; "peninsulae Brnh. Typus unic." [handwritten white label]; "Chicago NHMus M. Bernhauer Collection" [printed]; "HOLOTYPE *Aleochara peninsulae* Bernhauer, 1936 teste Park & Ahn 2007" . Deposited in the Field Museum of Natural History (FMNH), Chicago, USA.

Redescription. Length 3.8–5.4 mm. Body compact and robust; reddish black; antenna, elytra, and legs brownish black; elytra bicolored. Antennomeres 1–3 elongate, 4 longer than wide, 5 subquadrate, and 6–10 transverse. *Mouthparts*. Labrum transverse, bearing approximately 8 small, setae, and approximately 19 long setae, a-seta, b-seta and pores present; b-seta acute (arrow indicates b-seta, Fig. 3c). Labium with pseudopores in median area; approximately 3 pores and pseudopores present in lateral area; a pair of distal setae present (arrow indicates distal seta, Fig. 3d). Ligula with approximately 3 pairs of small setae apically (Fig. 3d). Labial palpi with large a-, b-, and f-seta of 12 setae present (a–h, α–δ); β-seta close to twin pores (tp); d-seta higher than c-seta (Fig. 3e). Mentum transverse, bearing 4 pairs of main setae (b, u, v, w), and approximately 2 extra setae, and pores present (Fig. 3f). *Thorax*. Mesoventrite completely carinate (arrow, Fig, 3a). Elytral latero-posterior margin emarginate. *Abdomen*. Abdominal tergite VIII with many short setae and pores; posterior margin emarginate; undulate on male (Fig. 3g, h). Male abdominal sternite VIII with many short setae and pores; posterior margin produced on male (arrow, Fig. 3i) and rounded

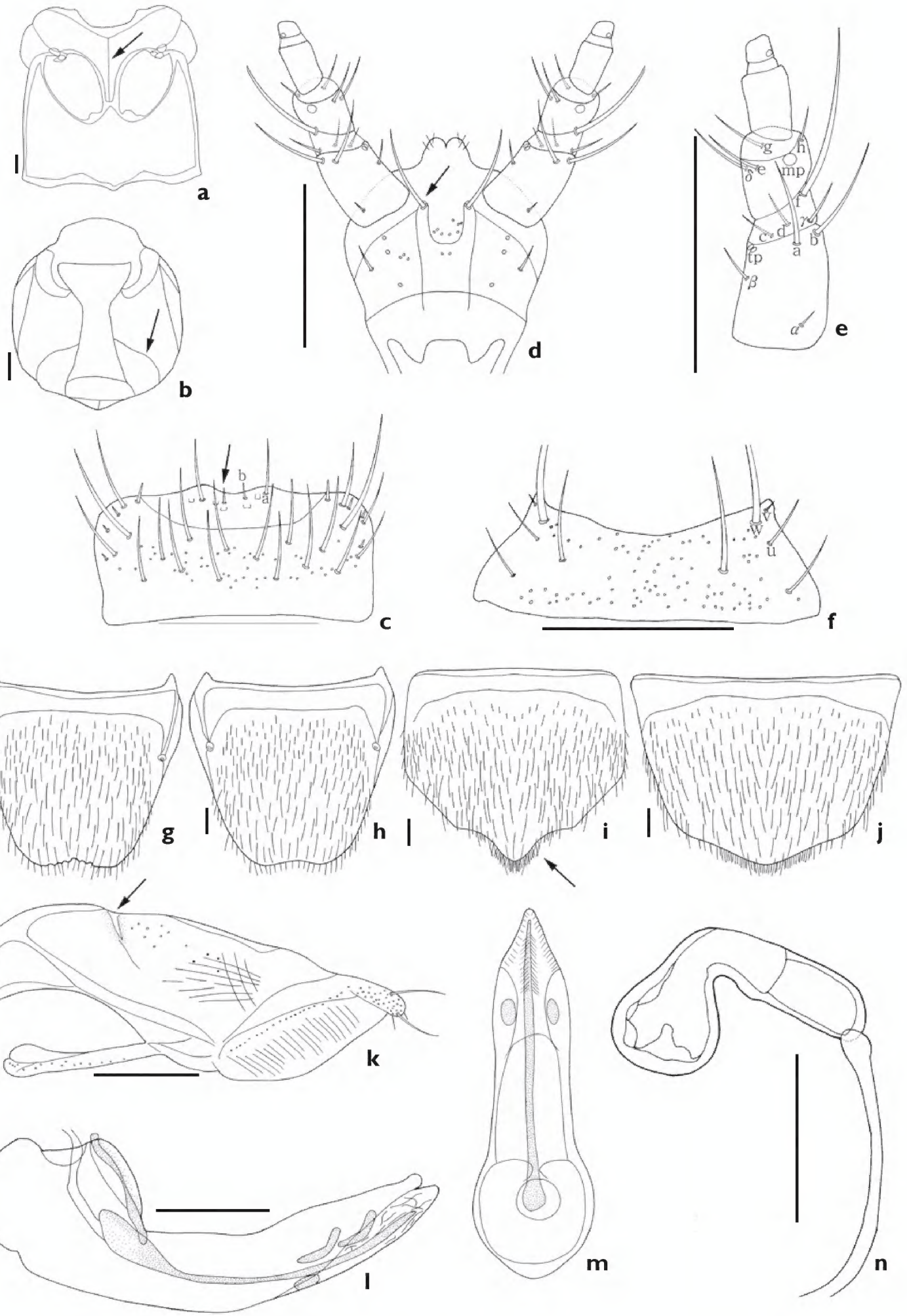

Figure 3. *Aleochara* (*Xenochara*) *peninsulae*. **a** meso- and metaventrite, ventral aspect **b** head, ventral aspect **c** labrum, dorsal aspect **d** labium, ventral aspect **e** labial palpus, ventral aspect **f** mentum, ventral aspect **g** male tergite VIII, dorsal aspect **h** female tergite VIII, dorsal aspect **i** male sternite VIII, ventral aspect **j** female sternite VIII, ventral aspect **k** paramere, lateral aspect **l** median lobe, lateral aspect **m** median lobe, dorsal aspect **n** spermatheca. Scale bars = 0.1 mm.

on female (Fig. 3j). *Genitalia*. Median lobe as in Figs 3l and m. Paramere with fovea in hinge zone (arrow, Fig. 3k). Spermatheca as in Fig. 3n.

Material examined. 2, Gyeongsang Univ., Gajoa-Dong, Jinju-city, Gyeongnam Prov., Korea, 26.III.2003, C.-S. Lim, *ex* bait trap; 2, Gyeongsang Univ., Gajoa-Dong, Jinju-city, Gyeongnam Prov., Korea, 2 VI 2003, C.-S. Lim, *ex* bait trap; 1, Gyeongsang Univ., Gajoa-Dong, Jinju-city, Gyeongnam Prov., Korea, 27.III.2003, C.-S. Lim, *ex* bait trap; 2, Gyeongsang Univ., Gajoa-Dong, Jinju-city, Gyeongnam Prov., Korea, 22.III.2003, C.-S. Lim, *ex* bait trap; 1, Gyeongsang Univ., Gajoa-Dong, Jinju-city, Gyeongnam Prov., Korea, 12.III.2003, C.-S. Lim, *ex* bait trap; 1, Gyeongsang Univ., Gajoa-Dong, Jinju-city, Gyeongnam Prov., Korea, 7.IV.2003, C.-S. Lim, *ex* bait trap; 1, Gyeongsang Univ., Gajoa-Dong, Jinju-city, Gyeongnam Prov., Korea, 15.III.2003, C.-S. Lim, *ex* bait trap; 1, Gyeongsang Univ., Gajoa-Dong, Jinju-city, Gyeongnam Prov., Korea, 24.III.2003, C.-S. Lim, *ex* bait trap; 1, Gyeongsang Univ., Gajoa-Dong, Jinju-city, Gyeongnam Prov., Korea, 29.V.2003, C.-S. Lim, *ex* bait trap; 1, Gyeongsang Univ., Gajoa-Dong, Jinju-city, Gyeongnam Prov., Korea, 30.III.2003, C.-S. Lim, *ex* bait trap; 1, near 1100m Rest Area, Jeju Prov., Korea, 30.V–17.VI.2003, Y.-B. Cho, *ex* bait trap.

Distribution. Japan, Korea.

Remarks. This species is a new record for the Korean peninsula.

Aleochara (*Xenochara*) *puberula* Klug

Fig. 4

Aleochara puberula Klug, 1832: 139; Ganglbauer, 1895: 32; Fenyes, 1920: 403; Bernhauer & Scheerpeltz, 1926: 781; Portevin, 1929: 236; Palm, 1972: 426; Lohse, 1974: 296; Klimaszewski, 1984: 46; Smetana, 2004: 360.
Aleochara vaga Erichson, 1839: 172.
Aleochara deserta Erichson, 1839: 173.
Aleochara decorata Aubé, 1850: 311.
Aleochara armitagei Wollaston, 1854: 559.
Aleochara badia Motschulsky, 1858: 237.
Oxypoda sanguinolenta Motschulsky, 1858: 241.
Oxypoda brunnescens Motschulsky, 1858: 243.
Aleochara dubia Fauvel, 1863: 428.
Oxypoda analis MacLeay, 1873: 135.
Baryodma bipartita Casey, 1894: 287.
Aleochara major Eichelbaum, 1912: 176.
See Klimaszewski (1984) for additional synonymies and references.

Redescription. Length 3.5–5.5 mm. Body reddish brown; antennomeres 1–3, elytra, and legs brown; elytra bicolored. Antennomeres 1–3 elongate, 4 longer than wide, 5 subquadrate, and 6–10 transverse. *Mouthparts*. Labrum transverse, bearing approximately 11 small, setae, and approximately 19 long setae, a-seta, b-seta, and pores present; b-seta

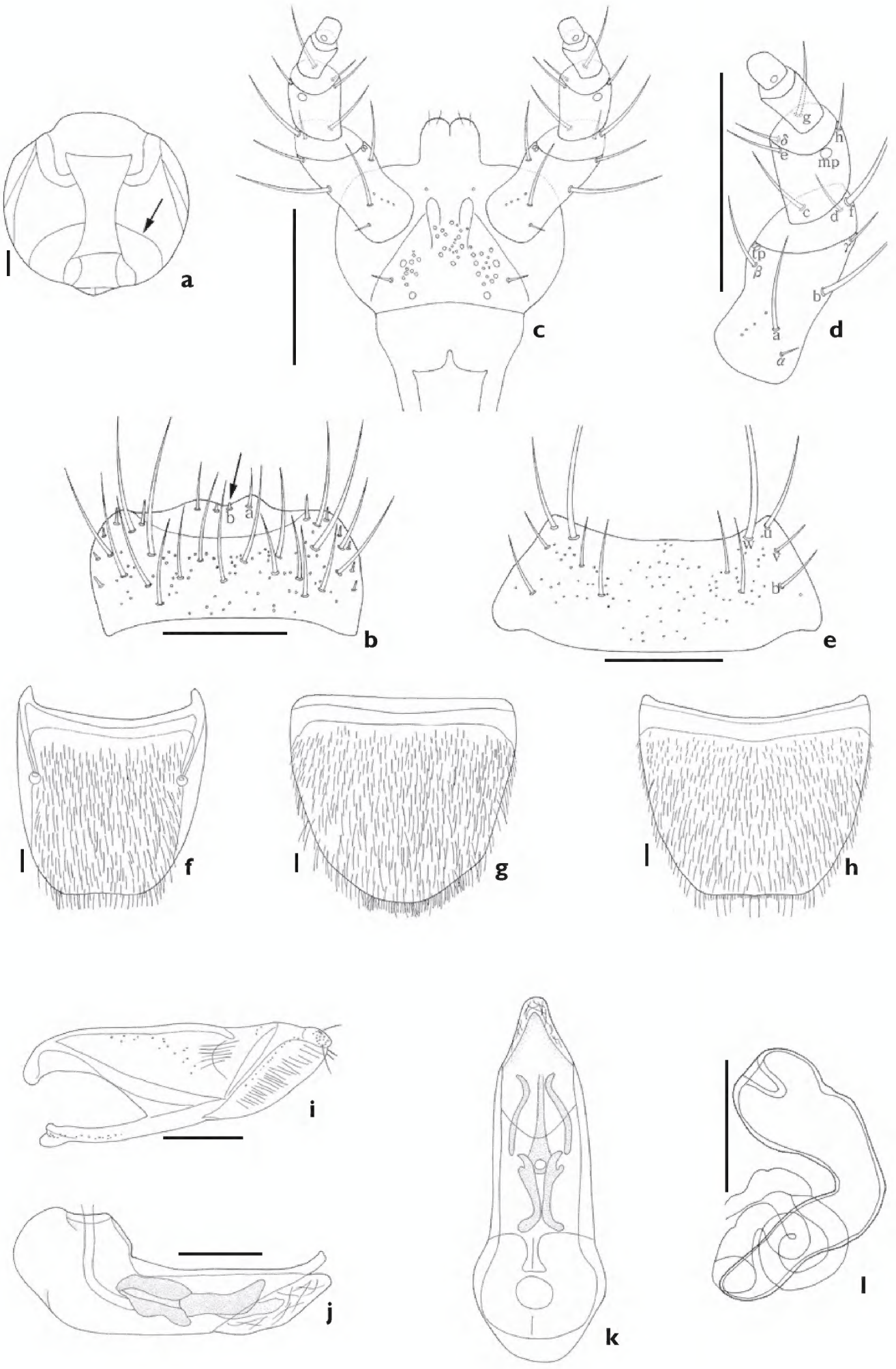

Figure 4. *Aleochara* (*Xenochara*) *puberula*. **a** head, ventral aspect **b** labrum, dorsal aspect **c** labium, ventral aspect **d** labial palpus, ventral aspect **e** mentum, ventral aspect **f** tergite VIII, dorsal aspect **g** male sternite VIII, ventral aspect **h** female sternite VIII, ventral aspect **i** paramere, lateral aspect **j** median lobe, lateral aspect **k** median lobe, dorsal aspect **l** spermatheca. Scale bars = 0.1 mm.

rounded at tip (arrow indicates b-seta, Fig. 4b). Labium with pseudopores in median area; approximately 3 real pores and pseudopores present in lateral area; a pair of basal pores present (Fig. 4c). Ligula with approximately 2 pairs of small setae apically (Fig. 4c). Labial palpi with large a-, b-, and f-seta of 12 setae present (a–h, α–δ); β-seta close to twin pores (tp); c-seta higher than d-seta (Fig. 4d). Mentum transverse, bearing 4 pairs of main setae (b, u, v, w), and 4 extra setae, and pores present (Fig. 4e). *Thorax*. Elytral latero-posterior margin emarginate. *Abdomen*. Abdominal tergite VIII with many short setae and pores; posterior margin weakly emarginate (Fig. 4f). Abdominal sternite VIII with many short setae and pores; apical margin rounded on male (Fig. 4g) and truncated on female (Fig. 4h). *Genitalia*. Median lobe as in Figs 4j and k. Paramere with fovea absent in hinge zone (Fig. 4i). Spermatheca coiled in duct (Fig. 4l).

Material examined. 2, Seoguipo-city, Jeju Prov., Korea, 18.VI.1985, K.-S. Lee; 1, Anseong, Muju-gun, Jeonbuk Prov., Korea, 5.VI.1988, G.-S. Jang; 22, Reunion 22–23.I.1992, Ravine de St. Gilles Bassin Cormoran, J. Janaj lgt; 1, Philippinen, Manila, Luy, 2.XI.1914; 1, Argentina, Prov. Tucuman, 450m, I 1905, Steinbach; 1, N. Palawan, Bakuit, 12.XI–22.XII 1913, Bottcher; 4, Sud algérien: Mrhaier 120 Km S de Biskra, 14.V.1954, G. Fagel; 4, China, B. M. 1980–491, P. M. Hammond, Guangdong, Guangzhou, Baiyunshan, 27.IX.80; 4, China, B. M. 1980–491, P. M. Hammond, Guizhou, 20m, S. Guilin, 22.IX.80; 1, Japan, Honshu, B. M. 1980–492, P. M. Hammond, Nara, ft of Mt. Kasuga, 20.VIII.80; 2, Japan, Sharp Coll., 1905–313; 4, Japan, G. Lewis, 1910–320.

Distribution. Japan, Korea, Asia, Europe, North Africa, North America (see Smetana, 2004: 360).

Aleochara (*Xenochara*) *tristis* Gravenhorst

Fig. 5

Aleochara tristis Gravenhorst, 1806: 170; Mulsant & Rey, 1874: 72; Fowler, 1888: 14; Ganglbauer, 1895: 34; Fenyes, 1920: 405; Bernhauer & Scheerpeltz, 1926: 784; Portevin, 1929: 237; Palm, 1972: 428; Lohse, 1974: 296; Klimaszewski, 1984: 37; Welch, 1997: 26; Smetana, 2004: 361.
Staphylinus bipunctata Olivier, 1795: 31.
Staphylinus geometrica Schrank, 1798: 642.
Aleochara flavomaculata Ménétriés, 1832: 147.
Aleochara bimaculata Stephens, 1832: 158.
Aleochara nigripes Miller, 1853: 27.
Aleochara erectesetosa Jekel, 1873: 41.
Baryodma nigripennis Mulsant & Rey, 1874: 76.
See Klimaszewski (1984) for additional synonymies and references.

Redescription. Length 3.7–6.4 mm. Body black; antenna and legs reddish black; elytra yellow to yellowish brown and bicolored. Antennomeres 1–3 elongate, and

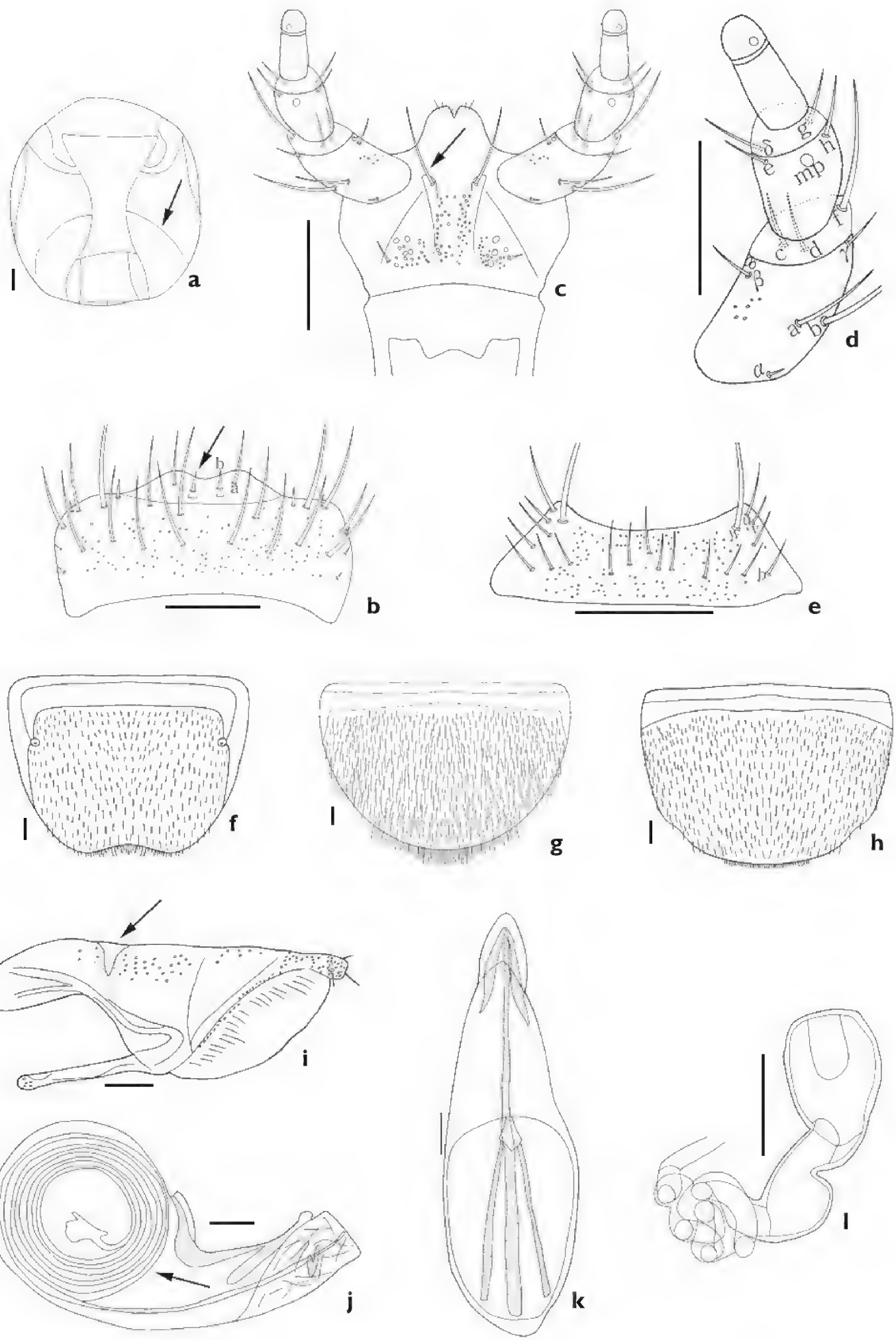

Figure 5. *Aleochara* (*Xenochara*) *tristis*. **a** head, ventral aspect **b** labrum, dorsal aspect **c** labium, ventral aspect **d** labial palpus, ventral aspect **e** mentum, ventral aspect **f** tergite VIII, dorsal aspect **g** male sternite VIII, ventral aspect **h** female sternite VIII, ventral aspect **i** paramere, lateral aspect **j** median lobe, lateral aspect **k** median lobe, dorsal aspect **l** spermatheca. Scale bars = 0.1 mm.

4–10 transverse. *Mouthparts*. Labrum transverse, bearing approximately 9 small, setae, and approximately 17 long setae, a-seta, b-seta, and pores resent; b-seta acute (arrow indicates b-seta, Fig. 5b). Labium with pseudopores in median area; about 3 real pores and pseudopores present in lateral area; a pair of distal setae present (arrow indicates distal seta, Fig. 5c). Ligula with approximately 3 pairs of small setae apically (Fig. 5c). Labial palpi with large a-, b-, and f-seta of 12 setae present (a–h, α–δ); β-seta close to twin pores (tp); c- and d-seta same level (Fig. 5d). Mentum transverse, bearing 4 pairs of main setae (b, u, v, w), and 13 extra setae, and pores present (Fig. 5e). *Thorax.* Elytra with round latero-posterior margin. *Abdomen*. Abdominal tergite VIII with many short setae and pores; posterior margin emarginate (Fig. 5f). Abdominal sternite VIII with many short setae and pores; apical margin rounded (Fig. 5g, h). *Genitalia.* Median lobe with coiled flagellum (arrow, Figs 5j and k). Paramere with fovea in hinge zone (arrow, Fig. 5i). Spermathecal duct coiled (Fig. 5l).

Material examined. 1, Russia, Tadshikistan, 1981, Duechanbe env, on light, 16–18.VI.1981, K. Majer; 36, Russia, Tadshikistan, Umg. Duechanbe env, 800–1200m, 4–14.IX.1983, U. Arnold.

Distribution. Korea, Asia, Europe, North Africa, North America (see Smetana, 2004: 361).

Remarks. See Klimaszewski (1984: 39) for reason why the older names *Staphylinus bipunctata* Olivier or *S. geometrica* Schrank do not have priority. We used Russian specimens for the redescription.

Acknowledgements

We thank Mr. James H. Boone and Dr. Alfred F. Newton (FMNH, Chicago) for the loan of type specimen and encouragements. We also thank Chris Carlton, Matthew Gimmel (Louisiana State Univ., Baton Rouge), and anonymous reviewers for helpful comments. This publication was approved by the Director, Louisiana Agricultural Experiment Station as manuscript number 2010-234-4180. This research was supported by the project on survey and excavation of Korean indigenous species of the National Institute of Biological Resources (NIBR) under the Ministry of Environment, Korea.

References

Ashe JS (1984) Generic revision of the subtribe Gyrophaenini (Coleoptera: Staphylinidae: Aleocharinae) with a review of the described subgenera and major features of evolution. Quaestiones Entomologicae 20: 129–349.

Assing V (2007a) New species and additional records of Staphylinidae from Turkey V (Coleoptera). Stuttgarter Beiträge zur Naturkunde, Serie A (Biologie) 700: 1–64.

Assing V (2007b) On the Aleocharini of Turkey, with notes on some species from adjacent regions (Coleoptera: Staphylinidae, Aleocharinae). Beiträge zur Entomologie 57 (1): 177–209.

Aubé C (1850) Description de quelques insectes coléoptères appartenant à l'Europe et à l'Algérie. Annales de la Société Entomologique de France (2) 8: 299–346.

Bernhauer M (1901) Die Staphyliniden der paläarktischen Fauna. Verhandlungen der Kaiserlich-Königlichen Zoologisch-Botanischen Gesellschaft in Wien 51: 430–506.

Bernhauer M (1936) Neuheiten der palaearktischen Staphyliniden fauna. Pubblicazioni del Museo Entomologico «Pietro Rossi» Duino 1: 237–325.

Bernhauer M, Scheerpeltz O (1926) Staphylinidae VI. (Pars 82). In: Junk W, Schenkling S (Eds) Coleopterorum Catalogus. Volumen 5. Staphylinidae. W Junk, Berlin, 988 pp.

Cameron M (1939) Fauna of British India including Ceylon and Burma. Coleoptera Staphylinidae. Volume IV. Parts I & II. Taylor and Francis, London, xviii+691 pp.

Casey TL (1894) Coleopterological notices. V. Annals of the New York Academy of Sciences 7 ("1893"): 281–606.

Eichelbaum F (1912) Die von Herrn Dr. Christoph Schröder in den Parehbergen und auf dem Kilimandjaro im Januar 1906 gesammelten Staphylinidae (darunter zwei neue Philonthusarten). Berliner Entomologische Zeitschrift 56 ("1911"): 173–176.

Erichson WF (1839) Genera et species Staphylinorum insectorum coleopterorum familiae 1. F.H. Morin, Berlin, 954 pp.

Fauvel A (1863) In: Chevrolat A, Fauvel A. Coléoptères de l'Ile de Cuba. Notes, synonymiques et descriptions d'espèces nouvelles. Annales de la Société Entomologique de France (4)3: 427–446.

Fenyes A (1920) Coleoptera Fam. Staphylinidae subfam. Aleocharinae. Genera Insectorum. 173: 111–414.

Fowler WW (1888) The Coleoptera of the British Islands. A descriptive account of the families, genera, and species indigenous to Great Britain and Ireland, notes as to localities, habtiats, etc. Volume II, L Reeve & Co., London, 444 pp.

Ganglbauer L (1895) Die Käfer von Mitteleuropa. Die Käfer der österreichisch-ungarischen Monarchie, Deutschland, der Schweiz, sowie des französischen und italienischen Alpengebietes. Zweiter Band. Famielienreihe Staphylinoidea. 1. Theil: Staphylinidae, Pselaphidae, Carl Gerold's Sohn, Wien, 881 pp.

Gravenhorst JKC (1806) Monographia Coleopterorum Micropterorum, Henricus Dieterich, Göttingen, 236 pp.

Heer O (1839) Fascicle II. In: Fauna Coleopterorum Helvetica. Pars I. Orelii, Fuesslini & Soc., Zürich, 652 pp.

Jekel H (1873) Coleoptera Jekeliana, adjecta Eleutheratorum Bibliotheca. Énumération systematique et synonymie des coléoptères européens et exotiques composant la collection de Henri Jekel. Observations critiques. Descriptions d'espèces nouvelles. Reproductions et traduction de genres et espèces publiés dans des ouvrages francais et étrangers de manière à former insensiblement la Bibliothèque ou Coléoptèriste. Livraison I, E. Deyrolle Fils, Paris, 96 pp.

Klimaszewski J (1984) A Revision of the genus *Aleochara* Gravenhorst of America North of Mexico (Coleoptera: Staphylinidae: Aleocharinae). Memoirs of the Entomological Society of Canada 129: 1–211.

Klug JCF (1832) Bericht über eine auf Madagascar veranstaltete Sammlung von Insecten aus der Ordnung Coleoptera. Abhandlungen der Königlichen Akademie der Wissenschaften zu Berlin 1832: 91–223.

Kraatz G (1859) Die Staphylinen-Fauna von Ostindien, insbesondere der Insel Ceylan. Archiv für Naturgeschichte 25: 1–196.

Lohse GA (1974) 23. Familie: Staphylinidae. In: Freude H, Harde KW, Lohse GA (Eds) Die Käfer Mitteleuropas. Band 5, Staphylinidae II (Hypocyphtinae und Aleocharinae). Pselaphidae. Goecke & Evers, Krefeld, 304 pp.

MacLeay WJ (1873) Notes on a collection of insects from Gayndah. The Transactions of the Entomological Society of New South Wales 2: 79–205.

Mannerheim CG (1830) Précis d'un nouvel arrangement de la famille des brachélytres de l'ordre des insectes coléoptères, St. Petersburg, 87 pp.

Ménétriés E (1832) Catalogue raisonné des objets de zoologie recueillis dans un voyage au Caucase et jusqu'aux frontières actuelles de la Perse entrepris par ordre de S. M. l'Empereur, L'Académie Impériale des Sciences, St. Petersburg, 271 pp.

Miller L (1853) Drei neue Staphylinen der Wiener Gegend. Verhandlungen der Zoologisch-Botanischen Vereins in Wien 2 ("1852"): 26–28.

Motschulsky V (1858) Énumeration des nouvelles espèces des de coléoptères rapportés de ses voyages. Bulletin de la Société Impériale des Naturalistes de Moscou 31(3): 204–264.

Mulsant E, Rey C (1874) Histoire naturelle des coléoptères de France. Brévipennes. Aléochariens. (Suite). - Aléocharaires, Deyrolle, Paris, 565 pp.

Olivier AG (1795) Entomologie, ou histoire naturelle des insectes, avec leur caractères génériques et spécifiques, leur description, leur synonymie, et leur figure illuminée. Coléoptères, Lanneau, Paris, 557 pp.

Pace R (2001) Aleocharinae nuove o poco note dell'India (Coleoptera, Staphylinidae) (165° Contributo alla conoscenza delle Aleocharinae). Nouvelle Revue d'Entomologie 18 (1): 31–47.

Palm T (1972) Skalbaggar. Coleoptera. Kortvingar: Fam. Staphylinidae UnderFam. Aleocharinae (*Aleuonota-Tinotus*). Svensk Insektfauna 53: 310–467.

Park JS, Ahn KJ (2009) Synonymy of *Aleochara* (*Aleochara*) *claviger* and *A. niponensis* (Coleoptera: Staphylinidae: Aleocharinae), and first record of *A. claviger* in Korea. Florida Entomologist 92 (3): 521–523.

Penecke KA (1901) Coleopterologische Miscellen. II. Wiener Entomologische Zeitung 20: 11–21.

Portevin G (1929) Histoire naturelle des Coléoptères de France. Tome I. Adephaga. - Polyphaga: Staphylinoidea. Encyclopédie entomologique. Série A. Tome XII, Paul Lechevalier, Paris, 649 pp.

Sawada K (1972) Methodological research in the taxonomy of Aleocharinae. Contributions from the Biological Laboratory Kyoto University 24 (1): 31–59.

Schrank FP (1798) Fauna Boica. Durchgedachte Geschichte der in Bairen einhemischen und zahmen Thiere, Vo. 1. Stein, Nürnberg, 720 pp.

Seevers CH (1978) A generic and tribal revision of the North American Aleocharinae (Coleoptera: Staphylinidae). Fieldiana Zoology 71: 1–289.

Sharp DS (1874) The Staphylinidae of Japan. The Transactions of the Entomological Society of London 1874: 1–103.

Smetana A (2004) Aleocharinae. In: Löbl I, Smetana A (Eds) Catalogue of Palaearctic Coleoptera Volume 2, Hydrophiloidea, Histeroidea, Staphylinoidea. Apollo Books, Stenstrup, 353–295 pp.

Stephens JF (1832) Illustrations of British entomology; or, a synopsis of indigenous insects, containing their generic and specific distinctions; with account of their metamorphoses, times of appearance, times of appearance, localities, food, and economy, as far as practicable. Mandibulata. Vol. V. Baldwin & Cradock, London, 448 pp + pls. 24–27.

Thayer MK (2005) Staphylinidae Latreille, 1802. In: Beutel RG, Leschen AB (Eds) Coleoptera, beetles volume 1: morphology and systematics (Archostemata, Adephaga, Myxophaga, Polyphaga partim). Walter de Gruyter, Berlin, New York, 296–344.

Welch RC (1997) The British species of the genus *Aleochara* Gravenhorst (Staphylinidae). Coleopterist 6 (1): 1–45.

Wollaston TV (1854) Insecta Maderensia; being an account of the insects of the islands of the Madeiran group. V.J. Voorst, London, 634 pp.